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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,250	12/07/2000	Karl Schreiber	PM 0271049 RRD00XX0X	9064

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EXAMINER

NGUYEN, TRINH T

ART UNIT	PAPER NUMBER
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3644

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/731,250

Applicant(s)

SCHREIBER ET AL.

Examiner

Trinh T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment dated 5/9/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 5-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 13 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In this case, the limitation "the welded joints have a thermo-mechanical strength substantially the same as the individual wall sections" has no support in the specification.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1,2, and 5-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1: it is not understood what is being claimed since there is no support in the specification for the phrase "the welded joints have a thermo-mechanical strength substantially the same as the individual wall sections".

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, and 6-9, 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (as set forth under BACKGROUND OF THE INVENTION; hereinafter is referred to as AAPA) in view of Johnson (US5430346).

AAPA discloses that it is known to make a combustion chamber of a gas turbine engine by "casting in a highly temperature resistant nickel-base casting alloy" (see paragraph 2 of page 1 of the specification). AAPA further discloses that "the rings and the dome of the combustion chamber are usually joined by welding" (note that "the rings and the dome" can be interpreted as a plurality of individual wall sections, wherein these individual wall sections are annular/circular segments of the combustion chamber).

However, AAPA lacks to mention that the welding is done by laser welding.

Johnson teaches that it is old and well known to use conventional laser welding to weld cast nickel alloy structural members together (note that these cast nickel alloy structural members are parts of spark plugs which are subjected to high heat stress like the individual cast wall sections as claimed). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method

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of AAPA so as to include the use of laser welding, in a similar manner as taught in Johnson, in order to provide a more efficient joining method and thus reduce the overall manufacturing cost.

For claims 6 and 11, it is noted that the laser welding as disclosed in AAPA as modified by Johnson (emphasis on Johnson) can be considered as a laser welding which inputs low energy to the wall sections.

For claims 7 and 12, AAPA as modified by Johnson lacks to mention that the laser welding is performed with a diode laser. However, it would have been an obvious matter of design choice to one having ordinary skill in the art at the time the invention was made to have modified the method of AAPA as modified by Johnson so as to include the use of a diode laser, since applicant did not provide a reason and/or showing any criticality as to why the laser welding has to be specifically done by diode lasers. Furthermore, one of ordinary skill in the art would have expected applicant's invention to perform equally well with the laser as one taught by Johnson.

For claims 8 and 13, it is noted that the laser welding as disclosed in AAPA as modified by Johnson (emphasis on Johnson) can be considered as a laser welding which provides a crack-free joint between the welded structural members.

For claims 9, 14, and 15, AAPA as modified by Johnson lacks to mention that the use of specific material (namely C1023) for the highly-temperature resistant nickel-based casting alloy. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select such a material, since to do so would have been considered an obvious material selection and design preference depending

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on the cost and availability of a particular material, and it appears that the invention would perform equally well with the material as disclosed by the prior art.

7. Claims 5, 10, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Johnson (US5430346), and further in view of Gasse et al. (US5975407).

AAPA as modified by Johnson lacks to mention that the laser welding is performed without filler material.

Gasse et al. teach that it is old and well known to use conventional joining technique by welding (such as tungsten insert gas welding, electron or laser welding) using with or without filler metal/material (see lines 30-35 of col. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of AAPA as modified by Johnson so as to include the use of laser welding technique using with or without filler metal/material, in a similar manner as taught in Gasse et al., since it is well known in the welding art to join structural members together by using a joining technique (such as laser welding) having with or without filler metal/material depending on manufacturing requirements and/or cost constraints.

Response to Arguments

8. Applicant's arguments filed 5/9/06 have been fully considered but they are not persuasive.

9. In Applicant's Remarks, it is noted that the Applicant admits/states that it is known to weld the combustion chamber of highly temperature resistant nickel-based casting alloy; however, this attempt will reduce the combustion chambers of inferior strength. It is noted that regardless whether the weld causes a reduction or not in the

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combustion chambers of inferior strength, the concept of making a combustion chamber of highly temperature resistant nickel-based casting alloy by welding is considered as an old and well known concept in the art.

10. Applicant further argues that AAPA does not disclose the welded joints have a thermo-mechanical strength substantially the same as the individual wall sections, Applicant's argument has been acknowledged. However, it is noted that there is no support in the specification for this limitation (i.e, the welded joints have a thermo-mechanical strength substantially the same as the individual wall sections) and therefore, it is not understood what is being claimed.

11. Applicant further argues that Johnson does not disclose highly temperature resistant nickel-based casting alloy be laser welded, Applicant's argument has been acknowledged. However, it is noted that in lines 42-51 of col. 4, Johnson teaches that it is old and well known to have nickel-based casting alloy components be laser welded. Furthermore, note that these nickel-based casting alloy components are parts of spark plugs which are subjected to high heat stress and therefore it is considered as highly temperature resistant nickel-based casting alloy components.

12. Applicant further argues that Gasse et al. do not teach joining such nickel-based casting alloys, Applicant's argument has been acknowledged. However, the Examiner is merely using the Gasse et al. reference to show the teaching that the concept of joining technique by laser welding using with or without filler metal/material is an old and well known concept used throughout the art of welding.

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13. Finally, Applicant further argues that Johnson does not disclose the laser welding inputs low energy, Applicant's argument has been acknowledged. However, a fair reading of the claim language permits the Examiner to broadly interpret that Johnson's laser welding is capable of inputting low energy since Applicant has not defined the specific degree and/or intensity of the term "low" and therefore it is unclear as to what the term "low" defines and/or intends to be encompassed.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

15. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh T. Nguyen whose telephone number is (571) 272-6906. The examiner can normally be reached on M-F (9:30 A.M to 6:00 P.M). The examiner's supervisor, Teri Luu can be reached on (571) 272-7045 for the purpose of

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status inquiry only. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Trinh T Nguyen
Primary Examiner
Art Unit 3644

6/30/06